Guideline on micro-credentials

Done by the Association of Swedish Higher Education Institutions (SUHF) General Assembly of 20 March 2024.

Innehåll

Freestanding courses in Swedish higher education are micro-credentials

- Freestanding courses that grant higher education credits and are quality assured by Swedish higher education institutions meet all the EU standard elements and principles for micro-credentials.

- There is a significant added value for individuals who, in their lifelong learning, choose to acquire micro-credentials as are freestanding courses at Swedish higher education institutions.

- Sweden has an excellent, module-based and flexible basic structure for higher education – with more potential, which today is not fully utilized.

The purpose of a guideline on micro-credentials

This document has been prepared by the Association of Swedish Higher Education Institutions (SUHF) to provide information about the Swedish framework for higher education and to be principally guiding[1] for micro-credentials that Swedish higher education institutions offer as credit granting courses. The purpose is to support a continued quality development within the Swedish system for higher education, which both gives credibility and development power going forward.

Therefore, in this guideline, there are recommendations to the member higher education institutions on considerations for the continued development of micro-credentials for lifelong learning of high international quality.

A European approach to micro-credentials

The Council of the European Union decided in June 2022 on a European approach to micro-credentials for lifelong learning and employability. The recommendation should be understood as part of the work towards achieving the European Education Area (EEA), and as part of the European Strategy for Universities. Annex 1 of the recommendation contains European standard elements to describe a micro-credential. The European principles for the design and issuance of micro-credentials are defined as ten points in Annex 2.[2]

A European approach to micro-credentials is described by the European Commission (2021):

> *"A micro-credential is the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes have been assessed against transparent and clearly defined standards.*

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[1] This document is a translation from Swedish to English and is made for information purposes only. In the event of discrepancies, the Swedish-language version takes precedence.

[2] The two annexes to the Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability (2022/C 243/02) are reproduced as appendices at the end of this document. Here they are supplemented with information on how freestanding courses in the Swedish higher education system meet the EU's standard elements and principles for micro-credentials in all respects.

> *Courses leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural or labour market needs.*
>
> *Micro-credentials are owned by the learner, can be shared and are portable. They may be standalone or combined into larger credentials. They are underpinned by quality assurance following agreed standards in the relevant sector or area of activity."*

In higher education, it is emphasized that micro-credentials *"although not deviating from and undermining the core principle of full degree programmes, […] could help widen learning opportunities to accommodate non-traditional learners and the demand for new skills in the labour market; make the learning experience more flexible and modular; support access to higher education; and engage learners, regardless of their previous qualifications or backgrounds, promoting reskilling and upskilling opportunities, while ensuring quality education."* [3]

Higher education in Sweden is module-based and flexible

In Sweden, it has been a basic rule since 1993 that higher education is module-based and *"must be provided in the form of courses"*.[4] The Swedish Higher Education Authority (UKÄ) describes in its annual report in English (2023) how the Swedish higher education system in an international comparison is relatively flexible and thus provides good conditions for lifelong learning:

> *"Compared with the higher education systems of many other countries, the Swedish higher education system is relatively flexible. Educational offerings are largely course-based. Most higher education institutions (HEIs) offer freestanding courses and programmes also as distance education, some of which can be completely online.*
>
> *Traditionally, Swedish higher education is not limited to educating youth after completing upper-secondary education. It also includes education later in life, continuing professional development, and that individuals take courses for personal development without necessarily having the intention of receiving higher education credits. Thus, higher education in Sweden has a clear role in lifelong learning."*

In the recent work on developing SUHF's recommendation (2023:1) on automatic recognition, we have been reminded of important strengths that we have thanks to the Swedish course-based framework for higher education and qualifications. We have also understood that the flexibility of the system arouses interest abroad and that Swedish freestanding courses by several leading international actors can be highlighted as a good example of micro-credentials in higher education.[5]

For other countries, higher education systems and institutions that mainly offer longer educational programmes, the introduction of micro-credentials may require more extensive

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[3] Council conclusions on the European Universities initiative – Bridging higher education, research, innovation and society: Paving the way for a new dimension in European higher education (EUT C 221, 10.6.2021, page. 14)

[4] 6th Chapter, 13th Section, Higher Education Ordinance (1993:100).

[5] This has emerged, among other things, in discussions within the Nordic cooperation and with leading representatives of the European University Association (EUA). The Swedish Presidency has also highlighted the positive features of the Swedish course-based system in presentations made in connection with the work on the Council's conclusions on automatic recognition and the resolution on the EEA which was adopted in May 2023.

change work than generally seen in Sweden. For some countries and higher education institutions, the introduction of micro-credits in higher education means that they also start offering shorter learning units for lifelong learning in addition to longer educational programmes leading to degrees.[6]

Quality assurance of micro-credentials that are formal higher education

Extensive and exploratory work is currently underway within the national higher education systems in Europe to enable the development and recognition of micro-credentials without sacrificing high quality (see e.g. IUA 2023, HRK 2023, NUFFIC 2023). For example, the Rectors' Conferences in Ireland and Germany within their national systems have recommended the minimum extent of micro-credits in higher education as one (1) ECTS Credit, while in some systems the maximum extent is stated as either *"less than a degree"* or in other cases with a value, for example 30 ECTS Credits.

Quality assurance is the basis for mutual trust between education systems and an important factor for deepened cooperation and smooth mobility between the countries. Within the EHEA, it takes place through the instruments established through the Bologna process.[7] The European higher education institutions themselves, through EUA (2021) and the European project MICROBOL (2022), have come to the conclusion that the Bologna instruments shall be applied for the micro-credentials delivered by or in collaboration with higher education institutions. This means that it is the higher education institutions that are responsible to ensure that the micro-merits are of high quality. The focus of external quality assurance should be the institutional approach to micro-credentials and their explicit inclusion in existing internal processes.[8] The higher education institutions should therefore also, for example, clearly state learning outcomes, scope in Credits (ECTS) and level (according to the Bologna system) for each micro-credential. In other words, each micro-credential needs to have a course syllabus where, among other things, these mandatory data are determined.

Quality in the design and dimensioning of the educational offer

Courses in higher education in Sweden shall be designed and dimensioned by the higher education institutions themselves. This is necessary, among other things, to ensure the courses' research basis and an internationally high quality of the activities. For example,

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[6] It is described in the Rome Communiqué (2020), within the framework of the intergovernmental Bologna process, that many European higher education institutions are working to offer smaller units of learning in addition to their full educational programmes, while preserving their right to design educational programmes and to regulate questions of credit transfer independently, and the Ministers for Education have committed to promote it.

[7] The Quality Framework for the European Higher Education Area (QF-EHEA) and the so-called **Bologna instruments** include the European Credit Transfer and Accumulation System (ECTS), the Diploma Supplement (DS), the overarching and national qualifications frameworks (QFs), the European Standards and Guidelines for Quality Assurance of Higher Education (ESG), the European Approach for Quality Assurance of Joint Programmes, the European Quality Assurance Register for Higher Education (EQAR), the Database of External Quality Assurance Results (DEQAR). The Convention on the Recognition of Qualifications concerning Higher Education in the European Region ('Lisbon Recognition Convention') can also be taken into consideration.

[8] The European higher education institutions' position is confirmed by the European Association for Quality Assurance in Higher Education, ENQA (2023), which recommends that external quality assurance of the higher education institutions' quality systems should also look on how the higher education institutions' micro-credentials are covered by the higher education institutions' internal quality systems.

Sahlin (2023) has clearly pointed out that good quality in higher education requires good quality in the education's research basis. The need for competence supply and lifelong learning creates an increased demand for new and flexible freestanding courses in higher education. The research basis can and should look different for different types of courses in different types of higher education institutions and subjects, but the research basis may not be compromised.

The starting point for the design of the course offering in the Swedish higher education is the demand of the students and the needs of the labo*u*r market. The European definition of micro-merits also emphasizes that the educational programmes must respond to identified needs for lifelong learning for the development of personal, social, cultural and professional competences. Each higher education institution therefore conducts a proactive and extensive work in cooperation with many different stakeholders in the surrounding society to identify and ensure the educational offer is up-to-date and responds to the competence needs and the students' demand. This also includes exploring new opportunities for flexible forms that follows by the rapid technological development.

The added value with micro-credentials (courses) in higher education in Sweden

It is important to understand that micro-credentials is a collective term that spans all forms of education and lifelong learning. In the Swedish context, there are many actors who are simultaneously exploring opportunities with micro-credentials. For example, the Swedish organizations Research Institutes of Sweden AB (RISE), the Swedish national Agency för Higher Vocational Education (Myndigheten för yrkeshögskolan) and the Swedish Public Employment Service (Arbetsförmedlingen) with the support of the Swedish Agency for Innovation Systems (Vinnova) in the Kompetenspasset project have recently produced a guidebook with a broad overview of what micro-credentials are and how they can be used to promote both individual and organizational development (2023).

In the Swedish higher education, freestanding courses are micro-credentials, but this does not exclude that other types of micro-credentials also exist. Thus, there is a need for the higher education institutions to be very clear and inform about the added value for the individual that exists with the micro-credentials that the universities and university colleges offer, which are credit-bearing courses in higher education. What distinguishes the higher education institutions' courses from other micro-credentials is that they can be said to be *"högskolemässiga"*, that is, they are research-based and quality-assured according to accepted academic principles and values that are codified in the Swedish framework for higher education. They are subject to a common set of regulations and supervision as well as established practices and agreements especially for higher education.

Based on the societal mission and academic principles and values, Swedish higher education institutions should repeatedly highlight and stress the unique role of higher education in the larger ecosystem for education and lifelong learning. The higher education institutions need to work more intensively to respond to the need for competence supply and lifelong learning. Part of that is to continue exploring opportunities to offer micro-credentials, which are freestanding courses within the Swedish higher education.

Considerations for the higher education institutions of that freestanding courses are micro-credentials

We have found that freestanding courses are micro-credentials in Swedish higher education. What does this mean for us, Swedish higher education institutions, and what do we need to consider doing? SUHF recommends that the members make the following considerations, in order to promote the development of micro-credentials for lifelong learning of high international quality.

1. Ladok

- Make sure that we manage documentation of freestanding courses as well as the students' participation and results on these courses so it also meets the requirements set by the EU standards for micro-credentials. This, the Ladok Consortium says, is entirely possible to achieve given that the higher education institutions use the *"Utbildningsplanering"* functionality (course database) in Ladok[9]. (See further in Annex 1.)

- The Ladok Consortium and the higher education institutions should also continue to work to improve the interoperability so that the Swedish study registry for higher education can work really well together with other relevant systems in the surrounding world. It is therefore important to further develop coordination, collaboration and cooperation with relevant international and national actors. This applies not least to the coordination of a national digital infrastructure for higher education in Sweden, with the Swedish Council of Higher Education (Universitets- och högskolerådet) and the Swedish Research Council (Vetenskapsrådet, SUNET).

2. Educational information

- Tell about the added value for the individual with a micro-credential which is a freestanding course in the higher education. This may mean, for example, that the following message is communicated:

    - Courses are research based, quality assured and internationally recognized.

    - Courses have clear learning outcomes, level and scope (hp / ECTS).

    - Courses correspond to identified competence needs.

    - The student's learning on courses is examined legally certain.

    - The student's results are documented digitally and can be verified digitally.

    - Courses are stackable (for example, given certain conditions, they can be included in a degree).

- Develop cooperation with, among others, the Swedish Council for Higher Education regarding targeted educational information for different regions and sectors (e.g. industries) and prioritized target groups (e.g. women and STEM or men and healthcare).

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[9] Ladok is the student information system used in Swedish higher education. https://ladokkonsortiet.se/in-english/about-us/the-ladok-system

3. *External collaboration*

- Communicate that the higher education institutions have great opportunities to meet the need for skills supply and lifelong learning thanks to the flexible and well-adapted Swedish framework for higher education.

- Continue to work closely together with employers and other relevant actors regarding the need for knowledge development, skill supply and innovation within the regions and sectors where the higher education institution operates.

4. *Educational offer*

- Consider measures within the higher education institution to intensify the work with and shorten the lead-times when producing micro-credentials (freestanding courses) that meet the need for skills supply and lifelong learning identified in collaboration with the stakeholders.

- This includes considering taking a position locally on the smallest possible scope of a micro-credential which is a course, or a clearly definable part of a course.

- This should take place without compromising on *"högskolemässighet"*, i.e. that the courses have a relevant research base and quality assurance (according to Bologna).

- The digitisation and AI mean rapidly emerging new opportunities for flexible forms and content in the higher education institution offerings, such as can promote lifelong learning.

5. *Financing*

- The Swedish system is already well adapted for a flexible and rich range of freestanding courses because government grants are distributed based on students' participation and results on courses.

- Promote creativity, risk-taking and innovation!

- For this purpose, it is important, among other things, to continue working together so that the government adjusts the financing system for higher education in the way that SUHF has previously proposed in, for example, input to the research bill and in line with the proposals by The Commission of Inquiry on Governance and Resources (Styr- och resursutredningen, STRUT). Particularly important for this purpose, as the student completion rate on shorter courses is often lower than for other education, is to change the resource allocation model so that the students' achievements are given less weight.

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Annex 1 – Standard elements to describe a micro-credential

Common European standard elements to describe a micro-credential according to Annex 1 to Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability (2022/C 243/02) compared with elements in Ladok, the student information system used in Swedish higher education.

Mandatory elements	Elements in Ladok
Identification of the learner (= the student)	*Namn, pnr, UUID, ESI*
Title of the micro-credential	*Kurskod, kursnamn*
Country(ies)/Region(s) of the issuer	*Land = SE*
Awarding body(ies)	*Lärosäte/organisation*
Date of issuing	*Examinationsdatum*
Learning outcomes	Learning outcomes (objectives) – Available in course syllabus (requires use of the function *Utbildningsplanering* in Ladok)
Notional workload needed to achieve the learning outcomes (in ECTS credits, wherever possible)	*Omfattning.* Scope is indicated in *högskolepoäng, HP* (ECTS) for higher education
Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF, QF-EHEA), if applicable	*Nivå* and *successiv fördjupning.* Level is indicated in line with Bologna; *grund- avancerad, forskarnivå,* first, second and third cycle (EQF level 6, 7, 8)
Type of assessment	Available in course syllabus (requires use of the function *Utbildningsplanering* in Ladok). *Betygsskala* also exists as well as ECTS Grading Table.
Form of participation in the learning activity	Available in course syllabus (requires use of the function *Utbildningsplanering* in Ladok).
Type of quality assurance used to underpin the micro-credential	Quality assurance according to European Standards and Guidelines, ESG. The higher education institution is responsible for internal quality assurance. The HEI's quality system is reviewed by Swedish Higher Education Authority, UKÄ. which is a member of the European association ENQA.
Optional elements	**Elements in Ladok**
Prerequisites needed to enrol in the learning activity	Available in course syllabus
Supervision and identity verification during assessment (unsupervised with no identity verification, supervised with no identity verification, supervised online, or onsite with identity verification)	All Swedish higher education institutions have AL2 (SWAMID assurance level), i.e. a very strong user identification service. Control takes place during the examination.
Grade achieved	*Betyg* in Ladok.
Integration/stackability options (standalone, independent micro-credential/integrated, stackable towards another credential)	Courses and clearly defined parts of courses can be stacked into bigger credits, and according to national and local regulations degrees can be issued.
Further information	Lot of!

Annex 2 – Principles for the design and issuance of micro-credentials

European principles for the design and issuance of micro-credentials according to Annex 1 to Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability (2022/C 243/02) compared to principles for freestanding courses in higher education in Sweden.

		European principles for the design and issuance of micro-credentials	Principles for the design and issuance of micro-credentials that are freestanding courses in higher education in Sweden
		The 10 principles presented below specify the nature of micro-credentials and offer guidance to Member States, public authorities and providers on the design and issuance of micro-credentials and systems for micro-credentials. The principles highlight the key characteristics of the European approach to micro-credentials that can enable the trust and quality of micro-credentials. The principles are universal and may be applied in any area or sector, if appropriate.	Below it appears that certificates issued by Swedish higher education institutions after independent courses in higher education in Sweden completely correspond to micro-credentials according to the 10 European principles
1	**Quality**	Micro-credentials are subject to internal and external quality assurance by the system producing them (e.g. the education, training or labour market context in which the micro-credential is developed and delivered). Quality assurance processes must be fit-for-purpose, clearly documented and accessible and meet the needs and expectations of learners and stakeholders.	Courses in Swedish higher education are subject to internal and external quality assurance on the basis of academic values and principles that are common and appropriate to higher education institutions worldwide. Within the European higher education area, this takes shape and can be performed through the so-called Bologna instruments (QF-EHEA).
		Providers: External quality assurance is based primarily on the assessment of providers (rather than individual courses) and the effectiveness of their internal quality assurance procedures.	**Higher education institutions:** External quality assurance is based primarily on the assessment of the higher education institution (rather than individual courses) and the effectiveness of its internal quality assurance procedures.
		Providers should make sure that internal quality assurance covers all the following elements:	Higher education institutions should make sure that internal quality assurance covers all the following elements:
		— the overall quality of the micro-credential itself, based on the standards referred to below;	— the overall quality of the course (the micro-credential) itself, based on the standards referred to below;
		— the quality of the course, where applicable, leading to the micro-credential;	— students' feedback on the course (the micro-credential) and;
		— learners' feedback on the learning experience leading to the micro-credential and;	— peers feedback, including other higher education institutions, on the course (the micro-credential).

		— peers feedback, including other providers and stakeholders, on the learning experience leading to the micro-credential. **Standards:** External quality assurance is to be conducted in line with: — Annex IV of the European Qualifications Framework Recommendation, where applicable; — the Standards and Guidelines for Quality Assurance in the European Higher Education Area, where applicable; — the European Quality Assurance Reference Framework (the EQAVET Framework) in the field of vocational education and training, where applicable; — other quality assurance instruments, including registries and labels, to build public trust in micro-credentials, where applicable.	**Standards:** External quality assurance is to be conducted in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).
2	**Transparency**	Micro-credentials are measurable, comparable and understandable, with clear information on learning outcomes, workload, content, level, and the learning offer, as relevant. **Workload** — Higher education institutions should use the European Credit Transfer and Accumulation System (ECTS) and comply with the principles in Annex V to the EQF Recommendation, where possible, to demonstrate the notional workload needed to achieve the learning outcomes of the micro-credential. — Providers that do not use the ECTS may use other systems or types of information that can effectively describe learning outcomes and workload, in compliance with the principles in Annex V to the EQF Recommendation. **Qualifications framework/systems** — Micro-credentials may be included in national qualifications frameworks/systems, where relevant, and in line with national priorities and decisions. National qualifications frameworks/ systems are referenced to the European qualifications framework and, for higher education qualifications, self-certified to the qualifications	Micro-credentials are measurable, comparable and understandable, with clear information on learning outcomes, workload, content, level, and the learning offer, as relevant. **Workload** — Higher education institutions should use the European Credit Transfer and Accumulation System (ECTS) and comply with the principles in Annex V to the EQF Recommendation, where possible, to demonstrate the notional workload needed (which is indicated by higher education credits, "*högskolepoäng*") to achieve the learning outcomes of the course (the micro-credential). **Qualifications framework/systems** — For courses, which are the basic building block (and thus included) in the Swedish reference framework for higher education, the level of the course must be stated according to the descriptions in chapter 1 §§ 7-9 of the Swedish Higher Education Act (1992:1434).

		framework of the European Higher Education Area, which can further support the transparency of, and trust in, micro-credentials.	The overarching Swedish qualifications framework (SeQF) is referenced to the European qualifications framework (EQF) and, for higher education qualifications, self-certified to the qualifications framework of the European Higher Education Area, which can further support the transparency of, and trust in, micro-credentials which are freestanding courses within the Swedish higher education.
		Information on the offer of micro-credentials Systems for micro-credentials should provide transparent and clear information, to underpin guidance systems for learners, in line with national practices and stakeholders needs: — Information on providers of micro-credentials is published where possible in existing relevant registers. Higher-education providers (and other relevant providers) should be included, where possible, in the Database of External Quality Assurance Results (DEQAR), based on quality assurance in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG); — Information on learning opportunities leading to micro-credentials should be accessible and easily exchanged through relevant platforms, including Europass.	**Information on the offer of micro-credentials** Systems for courses should provide transparent and clear information, to underpin guidance systems for learners, in line with national practices and stakeholders needs: — Information on higher education institutions that offer courses of micro-credentials is published where possible in existing relevant registers. Higher-education providers should be included, where possible, in the Database of External Quality Assurance Results (DEQAR), based on quality assurance in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG); — Information on courses should be accessible and easily exchanged through relevant platforms, including Europass.
3	**Relevance**	Micro-credentials should be designed and issued as distinct, targeted learning achievements and learning opportunities leading to them are to be updated as necessary, to meet identified learning needs. Collaboration between education and training organisations, employers, social partners, other providers and users of micro-credentials is encouraged to increase the relevance of the micro-credentials for the labour market.	Courses should be designed and issued as distinct, targeted learning achievements and learning opportunities leading to them are to be updated as necessary, to meet identified learning needs. Collaboration between higher education institutions, employers, social partners, other providers and users of micro-credentials is encouraged to increase the relevance of the micro-credentials for the labour market.
4	**Valid assessment**	Micro-credential learning outcomes are assessed against transparent criteria.	Learning outcomes (objectives) that lead to completed courses are assessed based on transparent criteria. For courses that are offered within higher education in Sweden is the guideline of the Swedish Higher

			Education Authority, *Rättssäker examination"* (2020), applicable.
5	**Learning pathways**	Micro-credentials are designed and issued to support flexible learning pathways, including the possibility to validate, recognise and 'stack' micro-credentials from across different systems.	Courses are designed and issued to support flexible learning pathways, including the possibility to validate, recognise and 'stack' micro-credentials from across different systems.
		Stackability	**Stackability**
		Micro-credentials are designed to be modular so that other micro-credentials may be added to create larger credentials.	Courses are designed to be modular so that other micro-credentials may be added to create larger credentials (e.g. degrees).
		Decisions to 'stack' or combine credentials lie with the receiving organisation (e.g. education and training institutions, employers, etc.), in line with their practices, and should support the goals and needs of the learner.	Decisions to 'stack' or combine credentials lie with the receiving higher education institutions in line with their practices, and should support the goals and needs of the learner.
		Stacking does not create an automatic entitlement to a qualification or a degree. Such decisions are made by regional and national authorities or institutions in line with their awarding processes.	Stacking does not create an automatic entitlement to a qualification or a degree. Decisions to issue a degree are made by the higher education institutions in line with national and local regulations and after a student's application.
			Stacking does not create an automatic entitlement to a qualification or a degree. Decisions to issue a degree are made by the higher education institutions in line with national and local regulations and after student application.
		Validation of non-formal and informal learning	**Validation of non-formal and informal learning**
		Obtaining micro-credentials is possible following assessment of learning outcomes, obtained either through a specific course leading to a micro-credential, or on the basis of assessment of learning outcomes resulting from non-formal and informal learning.	Results on courses can be obtained following assessment of learning outcomes, that is, an assessment of whether the student, after completing the course, can demonstrate that she or he has achieved the course syllabus learning objectives, either through the student's examined performance on a course instance or through credit transfer following an assessment of the outcomes of non-formal or informal learning.
6	**Recognition**	Micro-credentials have a clear signalling value of learning outcomes for smaller modules of learning.	Micro-credentials have a clear signalling value of learning outcomes for smaller modules of learning.
		Recognition paves the way for a wider offer of such learning experiences in a comparable way across the EU.	Recognition paves the way for a wider offer of such learning experiences in a comparable way across the EU.
		Micro-credentials are recognised, where possible, by the competent	Micro-credentials are recognised, where possible, by the Swedish higher

		authorities, for academic, training or employment purposes, based on the information provided according to the European standard elements (Annex I) and the principles for the design and issuance of micro-credentials (Annex II). When micro-credentials are issued by formal education providers, they are recognised, where possible, based on standard recognition procedures used in recognising foreign qualifications and learning periods abroad. This is without prejudice to the right of the competent authorities to define recognition procedures or to verify the authenticity of documents.	education institutions, for academic, training or employment purposes, based on the information provided according to the European standard elements (Annex I) and the principles for the design and issuance of micro-credentials (Annex II). When micro-credentials are issued by formal education providers, they are recognised, where possible, based on standard recognition procedures used in recognising foreign qualifications and learning periods abroad. This is without prejudice to the right of the Swedish higher education institutions to define recognition procedures or to verify the authenticity of documents. How this works in the Swedish higher education system is described in more detail in the Association of Swedish Higher Education Institutions (SUHF) Recommendation (2023:1) on promoting automatic mutual recognition of higher education and upper secondary education and training qualifications and the outcomes of learning periods abroad.
7	**Portable**	Micro-credentials are owned by the credential-holder (the learner) and may be stored and shared easily by the credential-holder, including through secure digital wallets (e.g. Europass), in line with the General Data Protection Regulation. The infrastructure for storing data is based on open standards and data models. This ensures interoperability and seamless exchange of data, and allows for smooth checks of data authenticity.	Micro-credentials are owned by the credential-holder (the learner) and may be stored and shared easily by the credential-holder, including through secure digital wallets (e.g. Europass), in line with the General Data Protection Regulation. The infrastructure for storing data is based on open standards and data models. This ensures interoperability and seamless exchange of data, and allows for smooth checks of data authenticity. This is provided for the students in the Swedish higher education through the nationally coordinated study register Ladok. Student's participation and results on freestanding courses, micro-credentials issued by Swedish higher education institutions, are kept entirely digitally. The Ladok consortium works continuously and in collaboration with national and European actors to develop interoperability and a seamless data exchange and enable smooth checks of data authenticity.
8	**Learner-centred**	Micro-credentials are designed to meet the needs of the target group of learners. Learners are involved in the internal and external quality assurance	Freestanding courses (micro-credentials) are designed to meet the needs of students. Students participate in the internal and external quality

		processes and their feedback is taken into account as part of the continuous improvement of the micro-credential.	assurance processes and their feedback is taken into account as part of the continuous improvement of the course.
			This takes place in the Swedish higher education i.a. through the course evaluations that the students are allowed to do after each course instance.
9	**Authentic**	Micro-credentials contain sufficient information to check the identity of the credential-holder (learner), the legal identity of the issuer, the date and place of issuance of the micro-credential.	Micro-credentials contain sufficient information to check the identity of the credential-holder (the student), the legal identity of the issuer, the date and place of issuance of the micro-credential.
10	**Information and guidance**	Information and advice on micro-credentials should be incorporated in lifelong learning guidance services and should reach the broadest possible learner groups, in an inclusive way, supporting education, training and career choices.	Information and advice about the freestanding courses (micro-credentials) that the Swedish higher education institutions offer should be incorporated in lifelong learning guidance services and should reach the broadest possible learner groups, in an inclusive way, supporting education, training and career choices.